# An adapter device for optical memory discs having a reduced size, and a promotional article comprising said adapter device

This invention relates to an adapter device which makes it possible to use an optical memory disc of the "compact-disc" type having dimensions (external diameter) smaller than a standard size or measure in a read and/or write device.

"Compact discs" have for many years predominated as high capacity memory media, initially as audio-digital media and more recently also as media for data in general.

Compact discs with the greatest variety of contents have been placed on the market for sale as separate commercial products, or as articles distributed in association with other commercial products to promote sales of the latter.

Normal compact discs are manufactured having a standard diameter of 12 cm (4.75"). Correspondingly, read-write devices have a recessed or depressed seat of precisely that standard diameter to receive these compact discs.

In addition to the principal seat having a diameter of 12 cm read-write devices generally have a further seat, which is further depressed, with a diameter of approximately 8 cm. This seat can be used to receive and locate 8 cm optical discs.

Existing read/write devices are not however able to "accept" compact discs having further reduced dimensions.

This invention has been developed in particular, but not exclusively, with a view to allowing the distribution and use of compact discs having reduced dimensions in comparison with the abovementioned standard values, for example having a diameter of approximately 5 cm and a capacity of the order of 10 Mbyte, in particular in association, as promotional articles, with commercial products of small size, in particular food products.

The invention has in particular been developed in order to permit the insertion of such a compact disc of somewhat smaller dimensions in combination with food products, either within the packages for the latter (for example buns, ice-cream or the like), or within the food product itself (for example hollow chocolate products or the like).

This and other objects will be achieved according to the invention through an adapter device, the salient features of which are defined in the appended claim 1.

Promotional articles comprising a compact disc of reduced size and an associated adapter device according to the provisions of claims 10 et sequenter likewise constitute an object of this invention.

Other advantages and characteristics of the present invention will become clear from the following detailed description which is given with reference to the appended drawings which are provided purely by way of non-limiting example and in which:

Figure 1 is a plan view of an optical disc of the "compact disc" type having an external diameter which is less than the standard diameter,

Figure 2 is a plan view of an adapter ring according to the invention,

Figure 3 shows the adapter ring in Figure 2 in a folded condition,

Figure 4 is a plan view which shows the compact disc in Figure 1 and the folded adapter ring in a mutually juxtaposed relationship,

Figure 5 is a plan view showing a compact disc of reduced size in comparison with the standard dimensions inserted in an adapter device according to the invention in the operating configuration,

Figure 6 shows a variant embodiment of an adapter ring, and

Figure 7 shows the adapter ring in Figure 6 in the folded condition.

In Figure 1, 1 indicates as a whole a compact disc having an external diameter which is smaller than the standard diameter. This compact disc has for example an external diameter of 5.1 cm, an internal diameter of 1.5 cm and a thickness of 1.2 mm.

Compact discs 1 of reduced size may be manufactured for example by punching or cropping a compact disc of standard

dimensions, in particular from a copy manufactured from a so-called "gold" copy.

In its simplest embodiment an adapter device according to the invention essentially comprises an adapter ring such as that indicated by 2 in Figure 2 and the subsequent figures.

Adapter ring 2 is manufactured from a flexible material, in particular card, having a thickness of preferably not more than 1 mm.

In the embodiment illustrated in Figures 2 to 5 the adapter ring has an outer perimeter 3 which corresponds to the outer circumference of a standard compact disc, for example having a diameter of 12 cm.

Adapter ring 2 also has an inner perimeter 4 which corresponds at least partly to the outer circumference 5 of compact disc 1.

Adapter ring 2 is folded along predetermined fold lines L1, L2 (Figure 2) in such a way that when in the folded configuration (Figure 3) this ring 2 has a size which is similar to or smaller than the external diameter of compact disc 1 (Figure 4).

In the embodiment illustrated adapter ring 2 is essentially folded in two diametrical directions L1, L2 substantially at right angles to each other in such a way as to form four adjacent segments interconnected at the folds.

Adapter ring 2 is unfolded for use, so that it has the planar annular configuration shown in Figure 2.

Conveniently adapter ring 2 may be provided with adhesive reinforcing means which may be applied thereto in the unfolded operating configuration to prevent any tendency towards resilient return to the folded condition. These adhesive reinforcing means may comprise a self-stick ring (not illustrated) having dimensions which are smaller than or at the most the same as those of adapter ring 2, and which can be applied to one surface of the latter.

As an alternative, the aforesaid adhesive reinforcing means comprise a plurality of self-stick elements or tabs of small size, such as those indicated by 6 in Figure 5, which can be applied to the fold areas of adapter ring 2, straddling the fold lines.

For use the ring and the self-stick elements are conveniently provided with corresponding peelable coatings protecting their surfaces or the self-stick side.

With reference to Figures 6 and 7, in a variant embodiment outer perimeter 3 of adapter ring 2 has a plurality of portions or sides 3a which extend essentially along the chords of a circumference 7 having a diameter corresponding to the external diameter of a standard compact disc. The perimeter of adapter disc in Figure 6 also has a plurality of curved portions of sides 3b corresponding to arcs of the aforesaid circumference 7. These curved sides 3b alternate with chordal sides 3a. The latter are at right angles to the diametral fold directions L1, L2 in pairs.

As may be appreciated by comparing Figure 7 with Figure 3, the variant embodiment of adapter disc 2 described above with reference to Figures 6 and 7 makes it possible to appreciably

reduce the maximum dimension presented by this adapter disc in its folded condition.

As previously stated, conveniently the maximum dimension of the adapter disc in the folded condition is close to or possibly less than the diameter of compact disc 1. This feature is advantageous having regard for example to the possibility of inserting folded adapter ring 2 in a juxtaposed relationship with a compact disc 1 either within a pack for a food product, such as a bun, an ice-cream or the like, or possibly within the food product itself, such as a hollow chocolate product and the like.

Naturally, the principle of the invention remaining the same, the forms of embodiment and details of construction may be varied widely with respect to those described and illustrated, which have been given purely by way of example, without thereby departing from the scope of the invention as defined in the attached claims.